

SYSTEM AND METHOD FOR FREQUENCY TRANSLATION USING AN IMAGE REJECT MIXER

ABSTRACT OF THE DISCLOSURE

Frequency translation, such as frequency up conversion of a video baseband or intermediate frequency to a desired frequency division broadcast channel, is provided utilizing a single sideband or image reject mixer and filtering having relaxed selectivity requirements. According to a preferred embodiment, a first single sideband mixer accepts an input signal at an intermediate frequency and up converts this signal to a high intermediate frequency. The image rejection provided by the single sideband mixer in combination with simple filtering provide sufficient signal quality to achieve desired levels of desired signal isolation, such as on the order of 40 dB. Preferably, a second single sideband mixer accepts the high intermediate frequency signal and down converts this signal to a desired transmission or broadcast frequency. The image rejection provided by the single sideband mixers in combination with simple filtering provide sufficient desired signal isolation, such as on the order of 40 dB, thereby relax the linearity requirements of amplifiers utilized in the frequency translation system. A preferred embodiment of the present invention disposes all or substantially all the frequency translation circuit elements on a single substrate.

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